WHAT IS CLAIMED IS:

1. A method of flat-field calibrating an image comprising:

    obtaining a plurality of images

    performing linear regression on the plurality of images to obtain a gain and an offset; and

    determining the desired image using the gain and the offset.

2. The method of Claim 1, further comprising obtaining a plurality of images ranging from dark current to full-well.

3. The method of Claim 1, further comprising performing linear regression on each pixel of the plurality of images.

4. The method of Claim 1, further comprising calculating the desired image using the equation:

    $Desired\_image = (Measured\_image - offset\_map) / gain\_map$.

5. The method of Claim 1, further comprising moving a calibration slide while obtaining the plurality of images.

6. A method of reducing offset map noise comprising:

    obtaining a plurality of images

3   obtaining the average dark current of the plurality of

4   images; and

5   determining the desired image using the gain and the

6   average dark current.

1   7.   The method of Claim 6, further comprising obtaining

2   a plurality of images ranging from dark current to full-well.

1   8.   The method of Claim 6, further comprising

2   calculating the desired image using the equation:

3   Desired_image = (Measured_image - average dark current) /

4   gain_map.

1   9.   The method of Claim 6, further comprising averaging

2   multiple frames to determine the desired image.

1   10.   A method of reducing filed curvature in an image

2   comprising:

3   obtaining an average curvature map of a plurality of

4   image panels;

5   dividing each panel by the curvature map.

1   11.   The method of Claim 10, further comprising

2   normalizing the curvature map by the average intensity of the

3   curvature map.

1   12. The method of Claim 10, further comprising smoothing

2   the curvature map.

1   13. The method of Claim 10, further comprising using

2   only pixels above a background intensity to obtain the average

3   curvature map.

1   14. The method of Claim 10, further comprising reducing

2   noise in the image by curve-fitting the image pixels.

1   15. A method of reducing discontinuities between

2   adjacent panels in an image comprising:

3   comparing a border of each panel on all sides to generate

4   border intensity scaling values; and

5   scaling a boundary of each panel to a point approximately

6   midway between a current panel and an adjacent panel.

1   16. The method of Claim 15, further comprising scaling

2   the boundary of each panel using an inverse square weighting.

1   17. The method of Claim 15, further comprising scaling

2   the boundary of each panel using an inverse weighting.